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(71) Applicant
Olsen-Design Limited, 5 Leys Avenue, Letchworth, Hertfordshire
(72) Inventor
Sonia Maria Olsen
(74) Agent
Pollak Mercer & Tench

(54) Combination Vehicles

(57) A combination vehicle comprises a drivable, functional (e.g. including working and/or living accommodation) unit (1) and a towable functional unit (2) which are rigidly and detachably connectable together, preferably by a plug (5, 6) and socket (5′, 6′) connection, such that their longitudinal axes are in alignment. Access may be provided between the units (1, 2), when connected together, by means of in-register doors (3,4) in the rear of the drivable unit (1) and the front of the towable unit (2). The unit (2) can have a pair of support legs (7), at its rear underside, for maintaining it in the horizontal position when disconnected from the other unit (1) and parked.

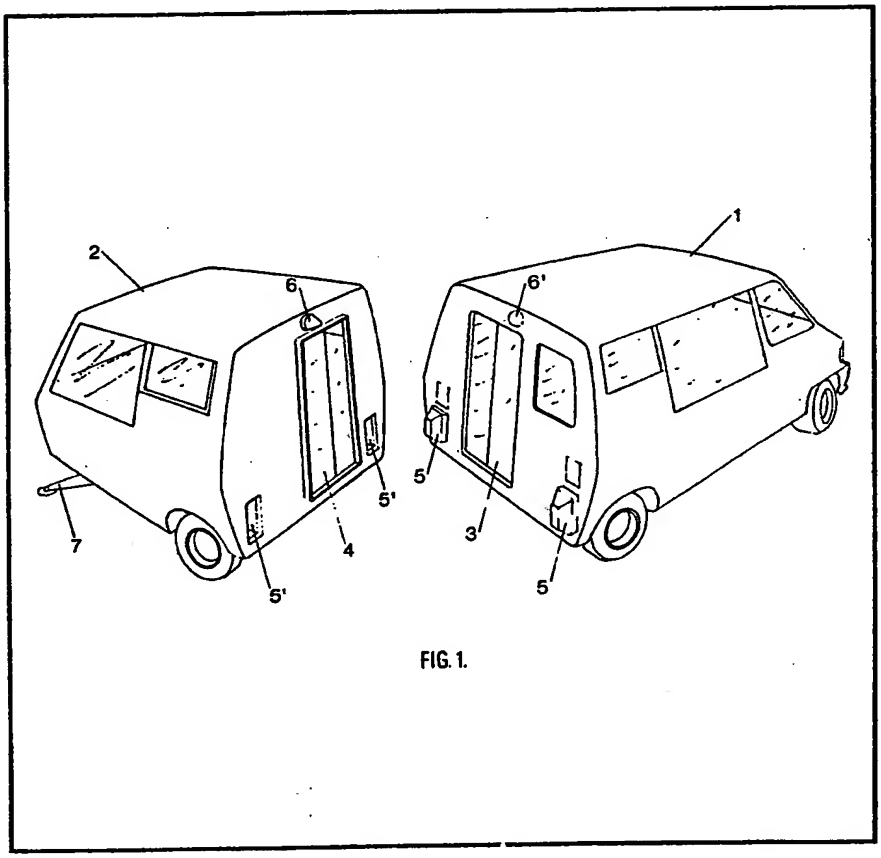

FIG. 1.

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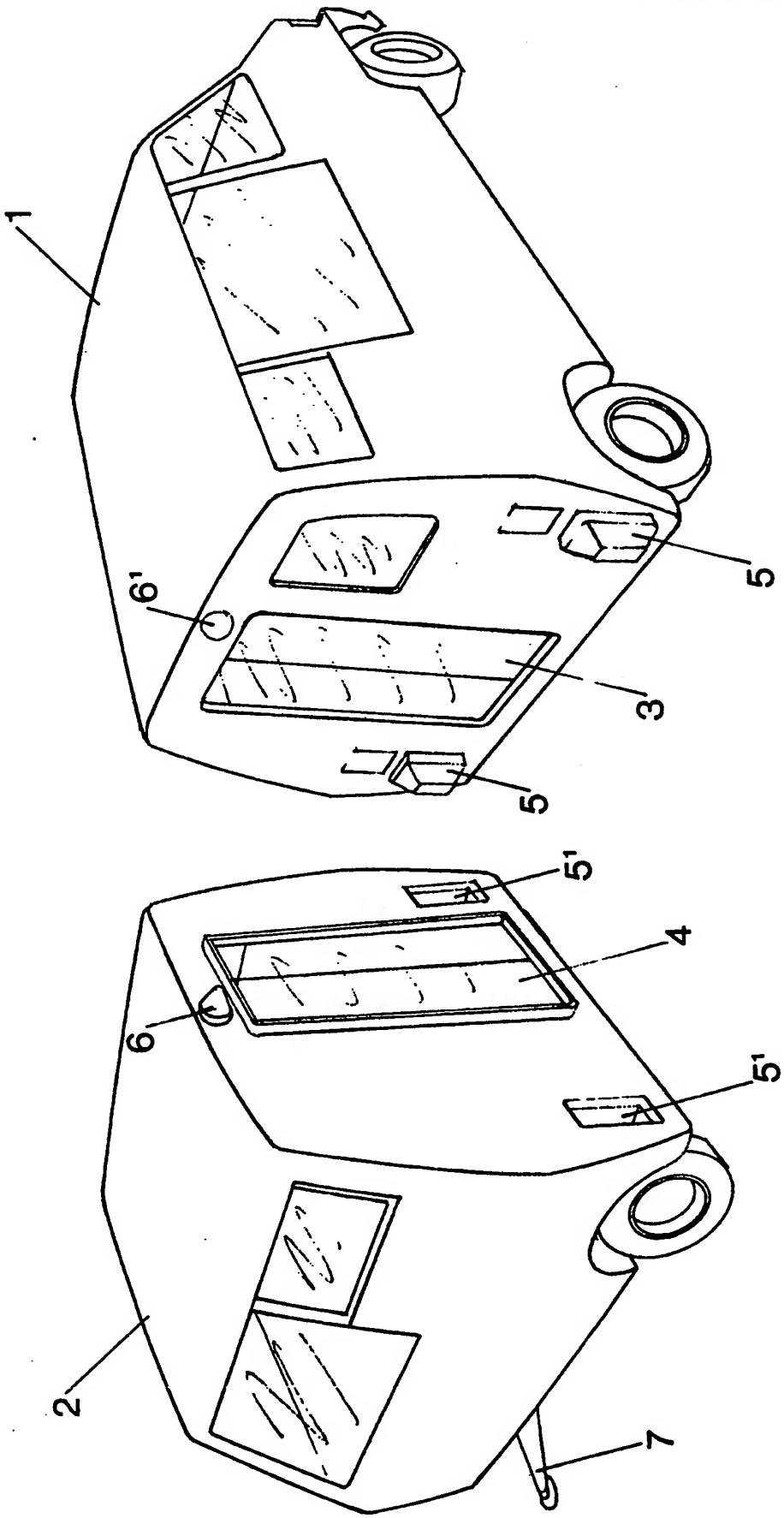

FIG.1.

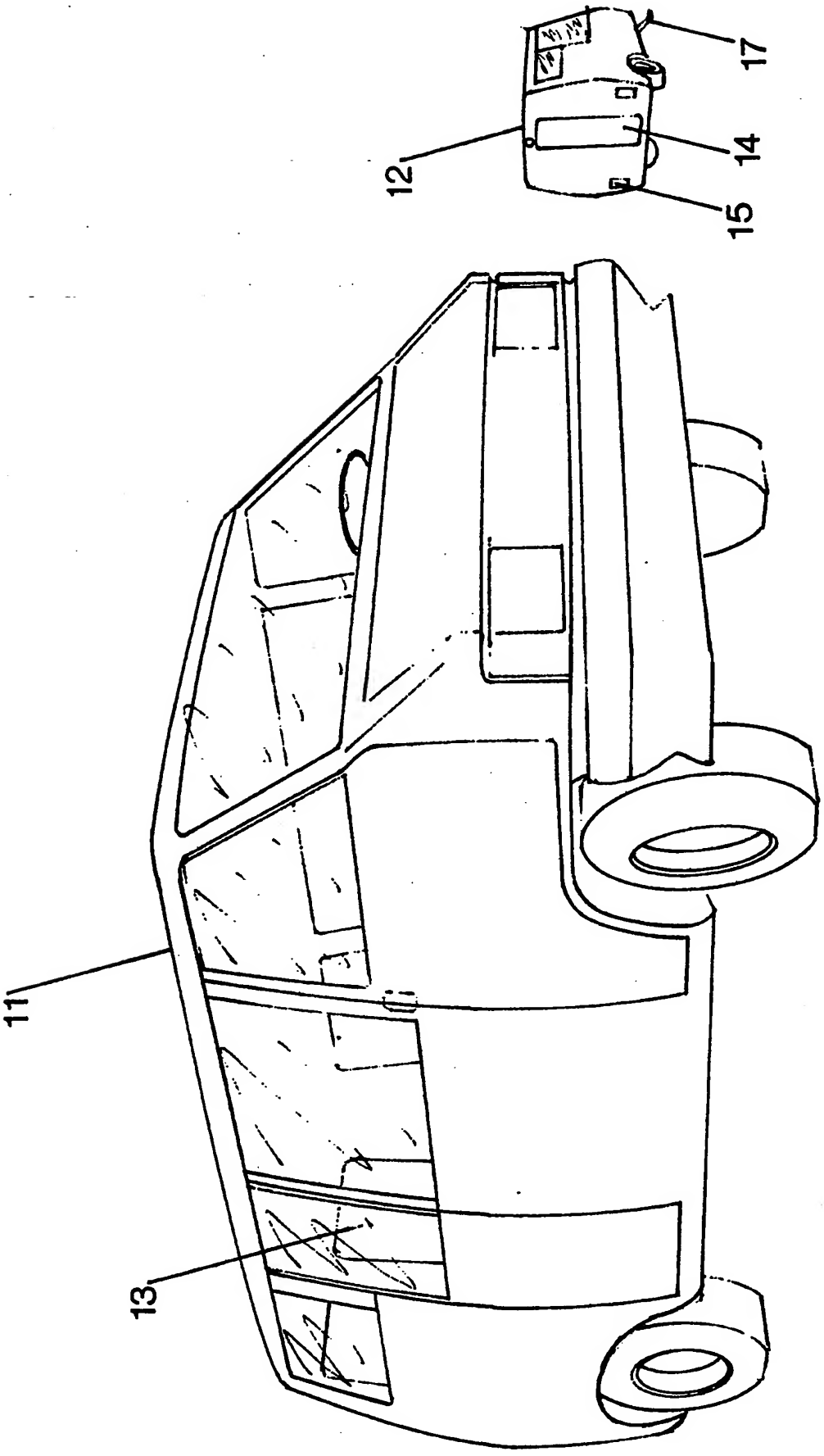

FIG.2

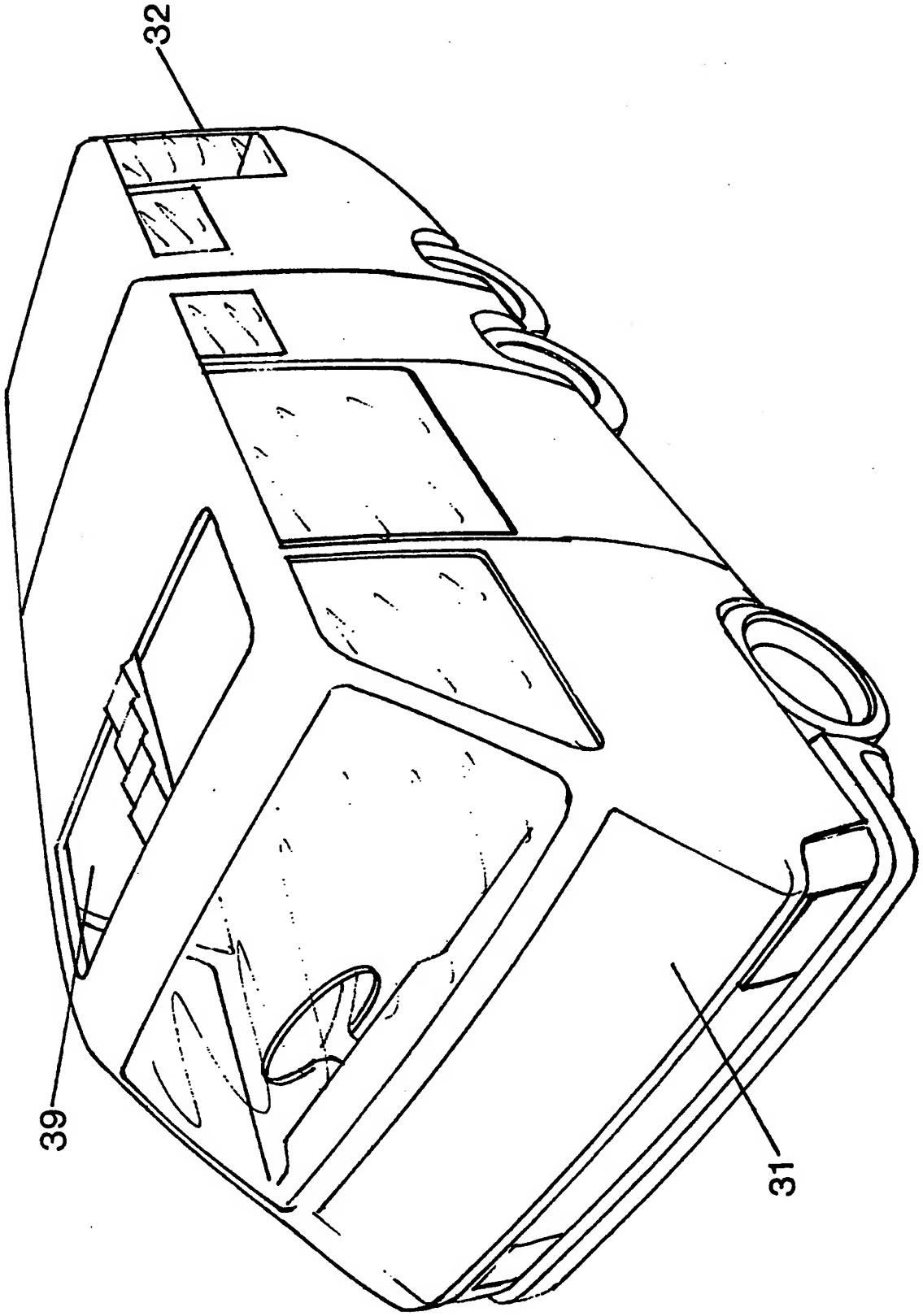

FIG.3

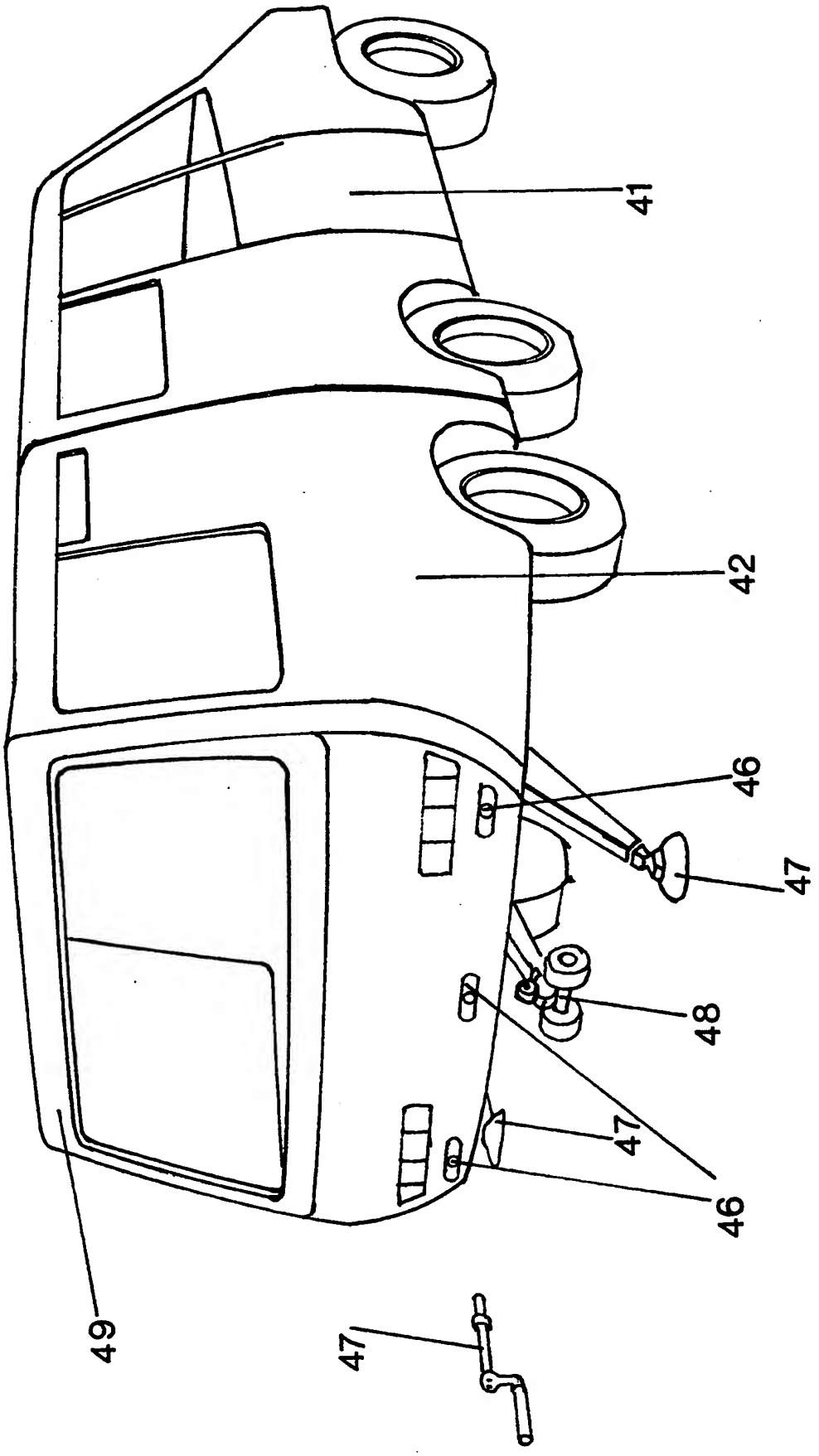

FIG. 4

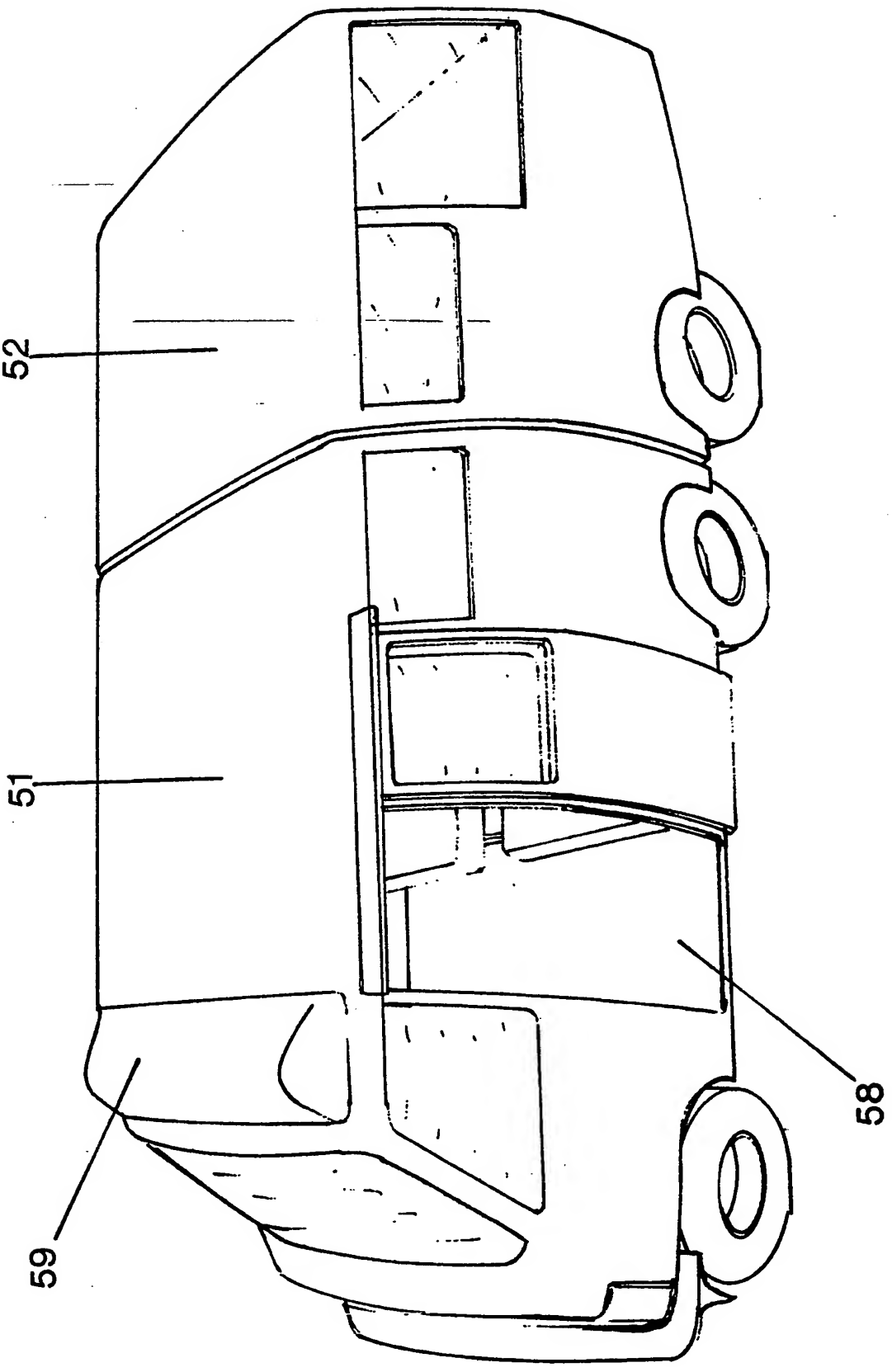

FIG.5

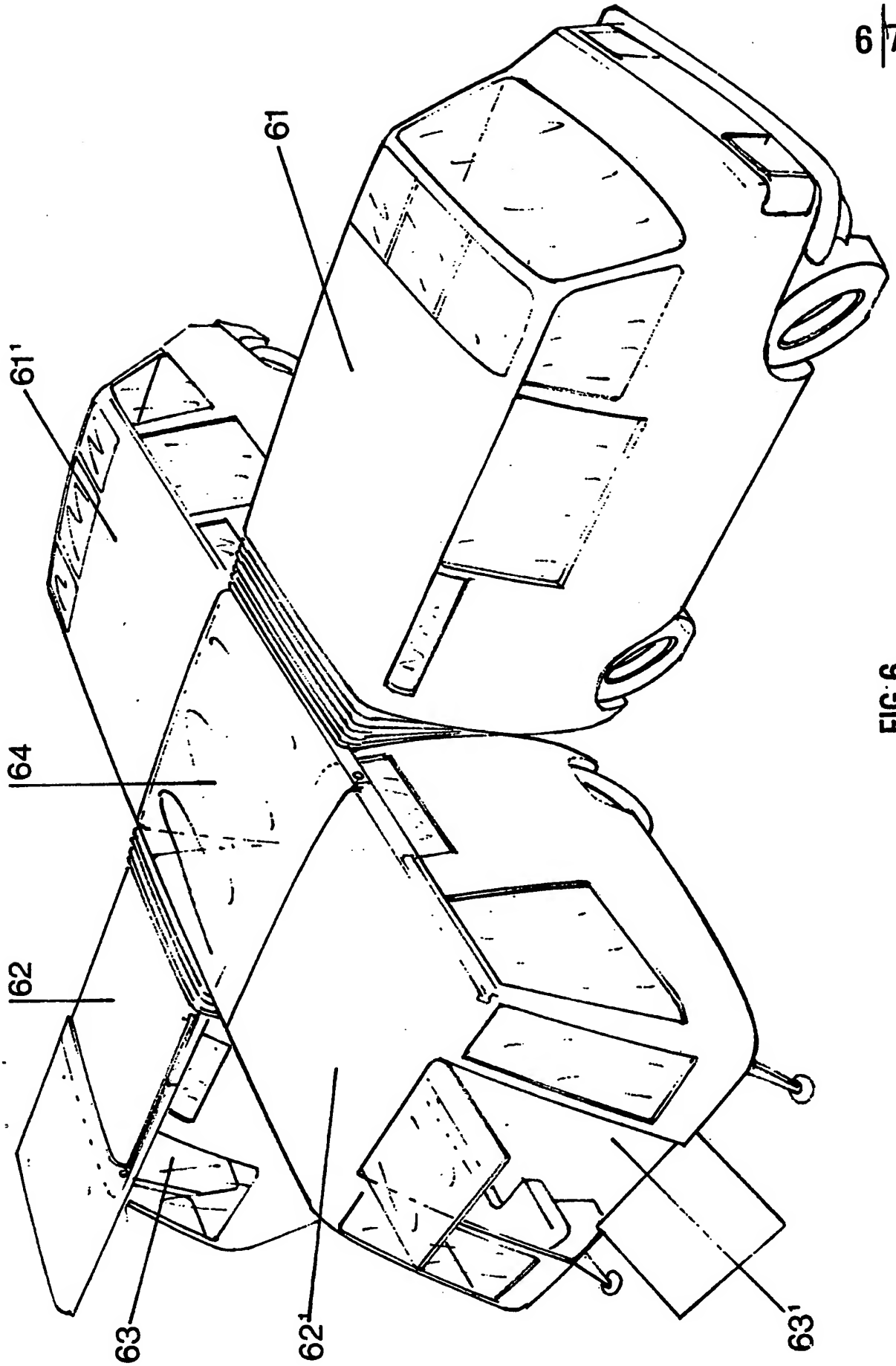

FIG.6

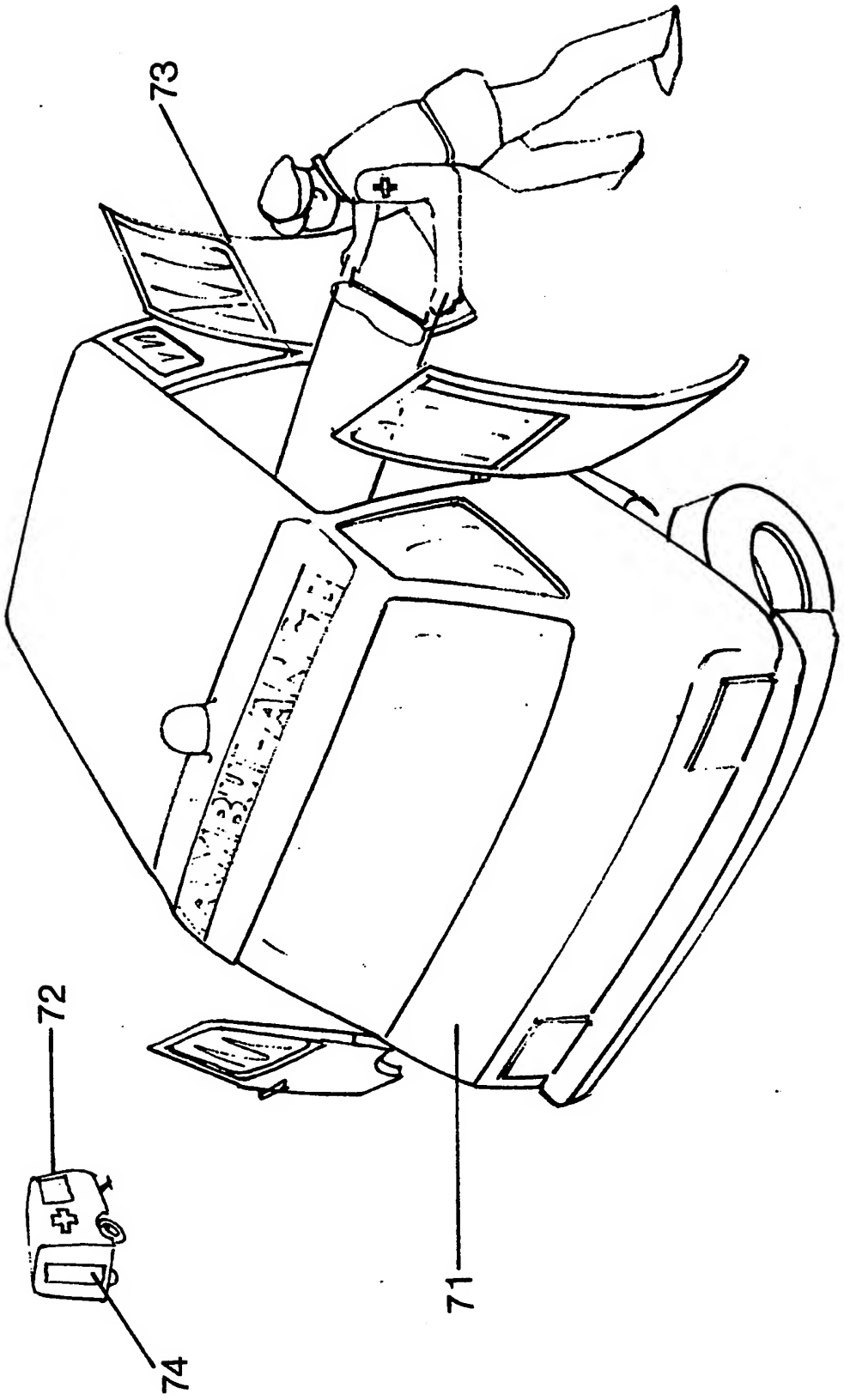

FIG.7

SPECIFICATION
Combination Vehicles

This invention relates to combination vehicles comprising a drivable unit and a towable unit.

In accordance with the invention a combination vehicle comprises a first, drivable unit and a second, towable unit, the units being rigidly and detachably connectable together, such that, when they are connected together, their longitudinal axes are in alignment, and both units being functional units, as hereinafter defined.

Throughout this specification, the term "functional unit" is used to describe a vehicle or part of a vehicle which is capable of being used for purposes other than or in addition to the driving or passenger-carrying function of a normal vehicle, such capabilities including working and/or living accommodation which is normally used when such a unit is stationary or parked.

Preferably, the first drivable unit is a four-wheeled unit, the front and/or rear pair of wheels being drivable and at least the front pair of wheels being steerable. Preferably also, the second unit has only one pair of wheels on a common axle and is provided with means for maintaining it in a desired orientation when it has been disconnected from the first unit.

The two units can be detachably and rigidly connected together by any suitable means, such as a plug and socket type connection. Advantageously, the first drivable unit can be provided with a rear door which, when the two units are connected together, register with a door in the front of the second unit, whereby access is provided between the units.

In order that the invention may be more fully understood, various embodiments thereof will now be described by way of example and with reference to the accompanying drawings, in which:

Figure 1 is a perspective view of a first form of combination vehicle with its two functional units disconnected;

Fig. 2 is a perspective view of a second form of combination vehicle, similar to that shown in Fig. 1, and again with its two functional units disconnected;

Fig. 3 is a perspective view of a third form of combination vehicle, similar to those shown in Figs. 1 and 2, but with its two units connected together;

Fig. 4 is a perspective view of a fourth form of combination vehicle, similar to those shown in Figs. 1, 2, and 3, with its two units connected together;

Fig. 5 is a perspective view of a fifth form of combination vehicle, similar to those shown in Figs. 1 to 4, again with its two units connected together;

Fig. 6 is a perpsective view of two further forms of combination vehicle arranged to form a quadrangle therebetween; and

Fig. 7 is a perspective view of yet another form of combination vehicle.

In Fig. 1 there is shown a caravanette-type vehicle which comprises a first, drivable and functional unit 1 disconnected from a second, towable and functional unit 2, both units including living accommodation. The unit 1 may be driven, either separately from or when rigidly connected to the second unit 2. When the two units 1, 2 are detachably and rigidly secured together with their longitudinal axes in alignment, a door 3 at the rear of the first unit 1 registers with a door 4 at the front of the second unit 2 so that access is provided between the two units and the living accommodation in one can be treated as an extension or integral part of that in the other. Pairs of plug and socket-type connections between the two units 1, 2 are indicated by reference numerals 5, 5′ and 6, 6′, but, in practice, more such pairs of connections can be provided and can include interengageable members for coupling service lines, e.g. for lighting, heating and water supply, between the two units 1 and 2. The towable unit 2 is provided at its rear underside with a pair (only one shown) of retractable or hinged legs 7 for maintaining it in a desired horizontal position when parked.

The combination vehicle shown in Fig. 2 is again a caravanette-type vehicle comprising a first drivable unit 11 with its second towable unit 12 parked. As in the case of the vehicle shown in Fig. 1, the unit 12 is provided with rigid but retractable or hinged legs 17 at its rear underside which maintain it in the desired horizontal position when parked. A door 13 in the rear of the unit 11 registers with a door 14 in the front of the unit 12 to provide access between the two units when connected together. A pair of plug members 15 can be seen at the front of the unit 12 and these are engageable with corresponding sockets (not shown) in the rear of the unit 11 for rigidly connecting the two units together.

The combination vehicle shown in Fig. 3 is very similar to those described above, with reference to Figs. 1 and 2, except that its drivable, functional unit 31 is provided with a "sunshine roof" arrangement 39 and both this unit and the towable functional unit 32 are connected rigidly together with their longitudinal axes aligned. Also, the arrangement and dimensions of the windows differ from those shown in the vehicle of Figs. 1 and 2.

Both units of the two vehicles shown in Figs. 2 and 3 contain living and/or working accommodation and, as described above, are provided with access therebetween by means of the in-register doors when connected rigidly together by their respective plug and socket type connections.

Fig. 4 shows yet another form of combination vehicle whose drivable, functional 41 is connected rigidly to its towable, functional unit 42. This particular design of unit 42 has a different roof structure 49 to those shown in Figs. 1 and 3 and also a different window arrangement. A pair of retractable logs 47 are provided at the rear underside of the unit 42, one being lowered

to the ground and the other being in the retracted position. A wheeled undercarriage 48, which is also retractable, enables the unit 42 to be manoeuvred into a desired parking position when this unit has been disconnected from the drivable unit 41. A crank handle 47 is cooperable with a mechanism (not shown), via holes 46 in the rear of the unit 42, for retracting or lowering both the legs 47 and under-carriage 48. Once again, both units 41, 42 contain living and/or working accommodation which are accessible via in register doors (not shown) when the units are connected rigidly together.

In Fig. 5, a caravanette-type combination vehicle is shown and comprises a towable, functional unit 52 and a drivable, functional unit 51 having an aerodynamically-shaped roof portion 59 and a side door 58. Also, the window arrangement is different to those shown in Figs. 1 to 4.

Fig. 6 shows two combination vehicles, each drivable unit, 61, 61′ being disconnected from its respective towable unit 62, 62′ with the rear ends of the drivable units and the front ends of the towable units forming a quadrangle which can be covered by a canopy (not shown). This arrangement can be used as an exhibition stand or camping purposes. Each towable unit 62, 62′ is provided with rear access through doors 63, 63′, respectively, the doors at the rear of the drivable units 61, 61′ and at the front of the towable units opening into the quadrangle.

In Fig. 7, combination vehicle comprises a drivable, functional unit 71 which is used as an ambulance and a towable, functional unit 72 which is parked some way away and is used as a first aid post. Side doors 73 provide access to the ambulance 71 for a stretcher, whilst the door 74 at the front of the first aid post 72 provides access between the two units 71, 72 when connected rigidly together with their longitudinal axes aligned, the door at the rear of the drivable unit or ambulance 71 not being shown.

Claims

1. A combination vehicle comprising a first, drivable unit and a second, towable unit, the units being rigidly and detachably connectable together, such that, when they are connected together, their longitudinal axes are in alignment, and both units being functional units, as hereinbefore defined.

2. A vehicle as claimed in claim 1, wherein the first unit has a door at its rear which registers with a door at the front of the second unit, when the units are connected rigidly together, to provide access therebetween.

3. A vehicle as claimed in claim 1 or 2, wherein the first unit is a four wheeled unit of which the front and/or rear pair of wheels is drivable and at least the front pair of wheels is steerable.

4. A vehicle as claimed in claim 1, 2 or 3 wherein the second unit has one pair of wheels on a common axle.

5. A vehicle as claimed in any preceding claim, wherein the two units have at least one pair of respective cooperating plug and socket connections for rigidly and detachably connecting the units together.

6. A vehicle as claimed in any preceding claim, wherein the two units are provided with at least one pair of interchangeable connections for coupling service lines between the units.

7. A vehicle as claimed in any preceding claim, wherein the second unit has at its rear underside at least one retractable or hinged leg for maintaining the unit in a desired horizontal position when disconnected from the first unit.

8. A vehicle as claimed in any preceding claim, wherein the second unit has at its underside a retractable, wheeled undercarriage for manoeuvering the unit when disconnected from the first unit.

9. A combination vehicle substantially as hereinbefore described with reference to the accompanying drawings.

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